

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for rapidly acquiring and tracking a threat using a directed countermeasure system without using two separate systems for a narrow field of view and a wider field of view, comprising the step of providing a tracker having fixed non-moveable and non-electrically tunable optics ~~having a variable~~ different focal length lengths provided by non-linear optics depending on the position in far field of an object relative to the on-axis centerline of the optics in which variations in the curvatures of one or more lenses in the non-linear optics creates the distorted field characteristic ~~to provide the variable focal length in the optics~~, the focal length shorter for off-axis objects and longer for on-axis objects, whereby acquisition times are minimized and alignment problems associated with two field-of-view systems are avoided.
2. (Previously presented) The method of Claim 1, wherein the field of view of the fixed optics is wide corresponding to the shorter focal length and is narrow corresponding to the longer focal length.
3. (Previously presented) The method of Claim 2, wherein an object is magnified when in the narrow on-axis field of view provided by the longer focal length of the optics.
4. (Original) The method of Claim 1, and further including imaging objects by the fixed optics onto an IR focal plane array.

5. (Original) The method of Claim 1, wherein the fixed optics include non-linear optics.
6. (Original) The method of Claim 1, wherein the fixed optics include Foveal optics.
7. (Original) The method of Claim 1, wherein the fixed optics intentionally provide barrel or other distortion.
8. (Original) The method of Claim 1, wherein the fixed optics have the characteristic of a distorted field of view.
9. (Original) The method of Claim 1, wherein the fixed optics include a lens which has less magnification at its periphery.
10. (Currently amended) A method for providing a directed countermeasure system with a wide field of view for threat acquisition and a narrow field of view for threat tracking, comprising the step of:

providing the countermeasure system with a tracker having non-linear non-moveable and non-electrically tunable fixed optics having a distorted field characteristic so as to magnify on-axis objects, the nonlinear optics providing different focal lengths depending on the position in the far field of an object relative to the on-axis centerline of the optics, whereby no moving parts are utilized to simultaneously provide for the wide and narrow fields of view.

11. (Original) The method of Claim 10, wherein the non-linear fixed optics include Foveal optics.
12. (Original) The method of Claim 10, wherein the fixed optics have a shorter focal length for off-axis objects and a longer focal length for on-axis objects.
13. (Currently amended) Apparatus for rapidly acquiring and tracking a threat using a directed countermeasure system without using a two field-of-view system, comprising a tracker having non-moveable and non-electrically tuned fixed optics having ~~a variable~~ different focal length ~~provided by non-linear optics~~ lengths depending on the position in the far field of an object relative to the on-axis centerline of the optics in which variations in the curvatures of one or more lenses in the optics creates a distorted field characteristic ~~to provide the variable focal length for the optics~~, the focal length shorter for off-axis objects and longer for on-axis objects, whereby acquisition times are minimized and alignment problems associated with two field-of-view systems are avoided.
14. (Original) The apparatus of Claim 13, wherein the field of view of said fixed optics is wide corresponding to the shorter focal length and is narrow corresponding to the longer field of view.
15. (Original) The apparatus of Claim 13, and further including an IR focal plane array or other detector or sensor onto which objects are imaged by the fixed optics.

16. (Canceled)

17. (Original) The apparatus of Claim 13, wherein said fixed optics include Foveal optics.

18. (Previously presented) A directed countermeasure system having a wide field of view for threat acquisition and a narrow field of view for threat tracking, comprising:

a tracker for said countermeasure system having non-movable and non-electrically tuned non-linear fixed optics, said fixed optics having a shorter focal length for off-axis objects and a longer focal length for on-axis objects, whereby no moving parts are utilized to provide for the wide and narrow fields of view.

19. (Original) The apparatus of Claim 18, wherein said non-linear fixed optics include Foveal optics.

20. (Canceled)